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Title: The Trajectory of Health-Related Quality of Life in Patients with Heart Failure

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Background & Significance

- Patients with heart failure (HF) experience worse health-related quality of life (HRQOL) than persons with other cardiac or chronic conditions.
- Physical symptoms, cognitive impairment, emotional distress, and complex treatment regimens adversely affect HRQOL.
- Assessment of HRQOL is important because it independently predicts mortality for patients with HF.
- Clinicians often assume that patients with preserved systolic function have better HRQOL than patients with non-preserved systolic function.
- Gender differences in HRQOL have been proposed, yet few investigators have examined the trajectory of HRQOL based on either gender or ejection fraction (EF).

Purpose

- To investigate whether the trajectory of HRQOL in patients with HF differs by gender or EF (preserved > 45%; non-preserved ≤ 45%) during the first 6 months after hospitalization.

Methods

- **Design:** Prospective, comparative sub-study of a randomized clinical trial of disease management for patients with HF. Only patients in the control group were included in this analysis.
- **Sample Inclusion Criteria:**
 - Hospitalized with HF.
 - New York Heart Association (NYHA) class II to IV HF.
 - Community dwelling.
 - No dementia, serious cognitive impairment, or psychiatric illness.
- **Settings:** Three hospitals located in the Midwest, United States of America; the Institutional Review Board at all sites approved the study.
- **Measures:**
 - Sociodemographic variables: age, education, gender, marital status, ethnicity, living arrangement
 - Health-related quality of life: Minnesota Living with Heart Failure Questionnaire – developed to measure HRQOL in HF patients; contains physical and emotional subscales, valid and reliable; scores range from 0 to 105; higher scores reflect worse HRQOL

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- **Procedure:** Patients completed the LHFQ while hospitalized, and 3 and 6 months after discharge.
- **Data Analysis:** Repeated-measures analysis of variance to determine whether the trajectory of HRQOL differed between men and women or between patients with preserved versus non-preserved systolic function.

Results

- A total of 121 patients were enrolled in the study. Selected sociodemographic and clinical characteristics of the sample are displayed in Tables 1 and 2.
- All patients reported substantially poorer HRQOL while hospitalized than at 3 months and 6 months after discharge (Table 3).
- Neither gender nor EF group interacted to produce an effect on the trajectory of HRQOL.
- Regardless of gender or EF, HRQOL improved significantly from baseline at both 3 months ($P < .001$) and 6 months ($P < .001$). Furthermore, HRQOL was better at 6 months compared to 3 months ($P < .001$) (Figures 1 and 2).

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Conclusions

- HRQOL was most impaired during hospitalization but significantly improved after discharge for both men and women, irrespective of EF.
- Based on these data, clinicians may advise male and female patients that HRQOL will likely improve after discharge.
- Clinicians should be aware that HRQOL is appreciably impaired even for HF patients with a preserved EF.

Table 1: Selected Sociodemographic Characteristics (N = 121)

Characteristic	Mean \pm SD or n (%)
Age (years)	70.0 \pm 11.3
Education (years)	12.0 \pm 3.2
Married	56 (46.3%)
Female gender	60 (49.6%)
White ethnicity	107 (88.4%)

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Table 2: Selected Clinical Characteristics (N = 121)

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Characteristic	Mean ± SD or n (%)
Ejection fraction	39.0 ± 16.8
NYHA classification	
I/II	52 (43.0%)
III/IV	69 (57.0%)
History of AMI	31 (25.6%)
History of PCI	17 (14.0%)
History of CABG	32 (26.4%)
History of HTN	89 (73.6%)

Table 3: Changes in Health-Related Quality of Life Scores Over Time

	<u>While Hospitalized</u>	<u>3 Months after Discharge</u>	<u>6 Months after Discharge</u>
<u>Total Sample (N = 121)</u>	<u>49.7</u>	<u>33.5</u>	<u>25.9</u>
<u>Men (n = 61)</u>	<u>50.5</u>	<u>32.9</u>	<u>27.7</u>
<u>Women (n = 60)</u>	<u>48.8</u>	<u>34.1</u>	<u>24.1</u>

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Figure 1: Health-Related Quality of Life Over Time for Females by Ejection Fraction

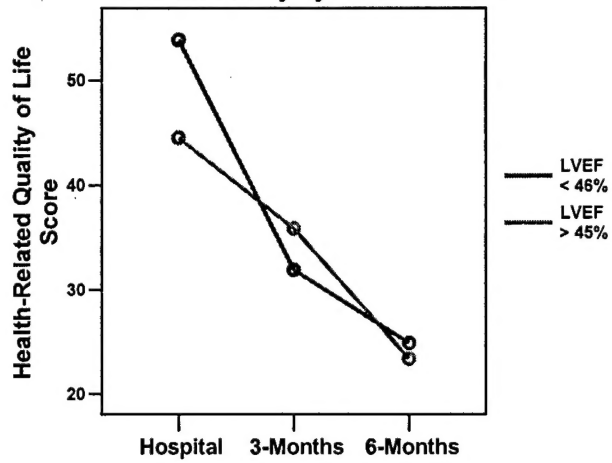
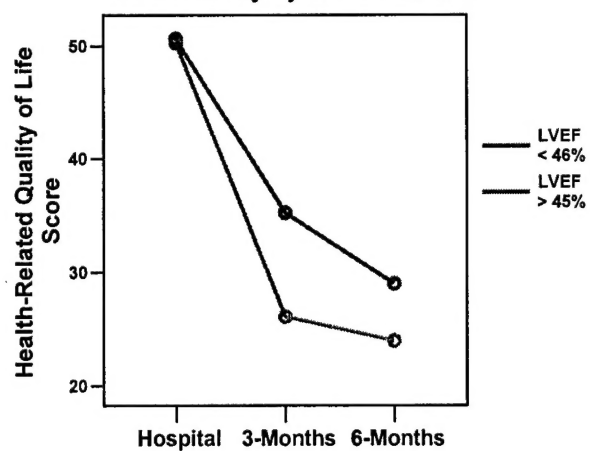


Figure 2: Health-Related Quality of Life Over Time for Males by Ejection Fraction



Changes in Health-Related Quality of Life Over Time

	Total Sample <u>N</u> = 121	Men <u>n</u> = 61	Women <u>n</u> = 60
LHFQ Score While Hospitalized	49.7	50.5	48.8
LHFQ Score 3 Months after Discharge	33.5	32.9	34.1
LHFQ Score 6 Months after Discharge	25.9	27.7	24.1